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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,622	11/09/2001	Giacomo Stefano Roba	05788.0189	5933

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Finnegan, Henderson, Farabow,  
Garrett & Dunner, L.L.P.  
1300 I Street, N.W.  
Washington, DC 20005-3315

EXAMINER
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HOFFMANN, JOHN M

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/986,622

Applicant(s)

ROBA ET AL.

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 31-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 November 2004 has been entered.

Claims 27-30 remain withdrawn

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 31-33, and 38-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 31: the term "annular axis" is indefinite as to its meaning. Annular means ring. But an axis is a straight line. These two things are mutually exclusive. Examiner does not understand in what ways an "annular axis" is annular and in what ways it is an

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axis. It is deemed that one of ordinary skill would not know how to tell if an axis is or is not annular.

Claim 38 requires that the collar "firmly hold" the preform or rod. However, claim 40 which depends from claim 38 indicates that the rod/preform can be removed. If something can be moved, one would typically think that it is not firmly held. The term "firmly held" makes the claims indefinite as to what it means. The claims appear to contradict each other – therefore the two claims are deemed to be indefinite.

Claim 41. First it is noted that the claim calls for a ratio. A ratio requires two numbers. But there is only a single digit. It is unclear if "2" means a - 2:1 - - ratio, a - - 1:2 - -ratio, or something else. And if "1.4" is suppose to be 1:4, or 1.4:1, or something else.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 31- 33 and 46-51 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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Examiner could find no support for the newly claimed "annular axis" – either explicit or implicit. Also see the above 112- 2<sup>nd</sup> paragraph rejection above. This is deemed to be a prima facie showing on failure to comply with the requirement. The burden is now on Applicant to show the requirement is complied with, or to amend the claims so that they comply.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 31-39 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paek 4608473 in view of Harding 4988374, Miller 4678490 and Kazuya JP 08091862 as per Applicant's translation thereof.

Paek is cited as a typical induction furnace, but it does not disclose a distributor body, the mechanical seal or the "bottom portion".

Figure 3 of Paek is the furnace. 38, 26 and everything in 26 comprise the "furnace body". Middle "62" is the susceptor. 38 is the induction col. The insulating material is clearly present. Upper 62 is deemed to be muffle.

As to the mechanical seal and distributor body: Harding is cited as evidence that it is well known to provide structures on tops of furnaces to seal the furnace and to

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keep preforms clean, by blowing gas at an angle – just like applicant does. See Harding, col. 1, lines 29-45, col. 3, line 24. It would have been obvious to improve the Paek method by using a distributor and seal on the top, so as to keep contaminants away from the preform. It is noted that Harding does not have the tangential feeding that is claimed.

But this tangential feeding is conventional in the art. It is well known in the glass fiber art to provide gases tangentially when supplying gas to an annular manifold – and that such can make the flow velocities through the ports more uniform and even minimize turbulence (as applicant does). See Miller, col. 1, line 33 to col. 2, line 13, as well as figures 3 and 5a. It would have been obvious to feed the Harding gas tangentially so as to make the flow more uniform around the preform – as taught by Miller.

As to the decreasing cross-sectional area: Kazuya teaches that using the tapered shape structure (that appears to be the same or nearly the same as Applicant's bottom chimney) decreases fluctuations in the outer diameter of the preform. It would have been obvious to use the Kazuya teaching to improve the Paek method, for the advantages that Kazuya teaches.

Claims 32-33: The angle is not taught in Harding. It would have been obvious to choose one of the angles as a simple matter of design choice, with no new or unexpected results. Alternatively, it would have been obvious to perform routine experimentation to find an angle which kept the preform clean as that is the intended purpose.

Claims 34-35 are clearly met.

Claim 36: Paek does not disclose using fins – instead, merely holes are used. Examiner takes Official notice that it is well known to use fins to distribute gases and to provide adjustability. It would have been obvious to alter the Paek apparatus to provided finned structure rather than holes so that one can selectively control gas flow at various points. Alternatively, it is deemed that structures such as 46 and 34 of Miller are vanes that are within the outlet: an outlet is nothingness. One could argue that the outlets of Miller extend all the way to the vanes. Applicant has not defined the outlets in a manner which would exclude such.

Claim 37: Examiner gives Official notice that it is well known to use a porous material to help evenly distribute air pressure. It would have been obvious to use a porous media within the distributor instead of (or in addition to) the gas feeding of Miller, for the same known advantage of distributing the uniformly to all ports.

Claims 38 – it is deemed that feature 7 of Harding is a support collar as claimed. It would have been obvious to use such to hold the preform, so that it moves only as it is suppose to move.

Claim 39: it is deemed that it can slide as claimed, when it is not connected to any other structure. Sliding is a method step that does (seem) to import any structure into the claims. It is noted it would have been obvious to have the chuck 7 be removable (from anything that it might be attached to) so that one can interchange/repair as one sees fit. Making things separable is generally not a patentable invention.

Claim 50: it would have been obvious to make the susceptor as large as desired- depending upon how large a preform one was using.

Claims 38-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paek 4608473 in view of Harding 4988374, Miller 4678490 and Kazuya JP 08091862 as applied to claim 34, and further in view of Kaiser 4030901.

Kaiser teaches to use a collar to prevent contamination of the fiber. It would have been obvious to use the Kaiser collar so as to prevent contamination of the fiber.

Claim 41 – Applicant indicates that the Enerseals are conventional (page 32, lines 13-14. It would have been obvious to use an Enerseal for their well established properties. As to the height ratio - the height from the seat to the top: the total height of the seat is less than 2 because it cannot be larger than one. The height of each wall must be no larger than the total height.

Claim 42: it is clear that some angle is better than no angle. Thus the angle is a result-effective variable. It would have been obvious to perform routine experimentation to determine the optimal angle. Claim 42 is interpreted as requiring a single angle that is between 12 degrees and 16 degrees. And not a single angle that includes both 12 degrees and 16 degrees and all angles there between.

Claim 43 would have been obvious depending upon the size of the preform and the final diameter that is drawn.



Claim 44: see feature 16A of Harding.

Claim 45: It is clear that temperature is an important feature – in particular see Harding which shows deposits on the lower wall – and how temperature plays a role in that (paragraph spanning cols. 3-4). It would have been obvious to provide a cooling/heating jacket so as to permit one to control as one sees fit.

Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paek 4608473 in view of Harding 4988374, Miller 4678490 and Kazuya JP 08091862 as applied to claim 34, and further in view of Koaizawa 5897682.

(This rejection is an alternative and/or additional rejection of claim 45)

It is well known to supply cooling jackets so as to cool the fiber as quickly as possible so that one can increase the line speed. See Koaizawa. It would have been obvious to add a cooling jacket at the lower end as taught by Koaizawa, so that one can increase the line speed.

Claims 46-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paek, Harding, Miller and Kazuya as applied to claim 31 above, and further in view of Uhm EP 0867412.

As discussed in previous actions, Uhm discloses rigid graphite to be a superior insulation material in the induction furnace art. It would have been obvious to improve

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the Paek furnace, by using the Uhm insulation material. See how the rest of the claims are met as discussed in the prior Office action.

### ***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

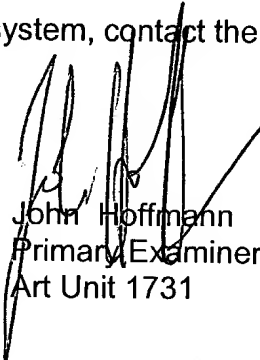
### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stephens, Nelson, Levine, Glaser, and Heath are cited as further evidence that the tangential feeding of gas is conventional practice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
John Hoffmann  
Primary Examiner  
Art Unit 1731

11-30-09

jmh